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First-Half M&A Down by 7%

The number of M&A deals done in the EMS industry decreased in the first half of 2018 versus the year-earlier period. According to *MMI's* count, 14 M&A transactions closed in the EMS industry during the first six months of the year, down from 15 in the first half of 2017 (Chart 1). That's a decrease of 7%.

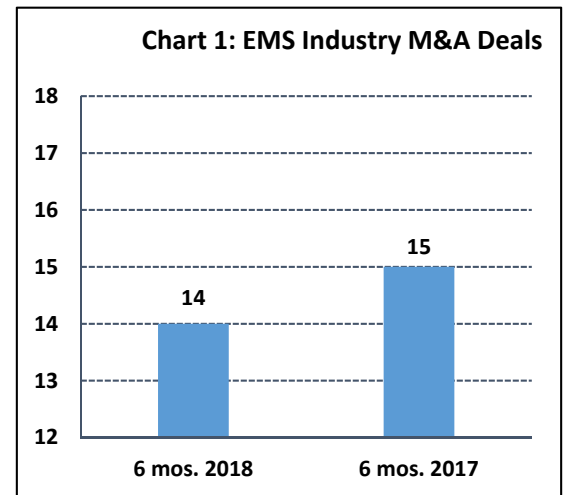
While M&A has been virtually flat since 2017, current activity has been fueled by corporations' quest for growth. Rather than spin their wheels trying to do it all internally, it's easier to buy another company's existing products, profits, and market share. The availability of debt financing at historically low financing rates is also a boon for M&A activity, especially in the healthcare and tech sectors. In the tech sector, it's large organizations that are using their significant liquid assets to continue buying up the products and intellectual property of their smaller competitors.

As the EMS industry attempts to cope with the high growth of 2017, many mid-tier suppliers are looking to find manufacturing assets that can directly affect the top and bottom lines. This often involves poaching weaker and smaller EMS companies that can be found in similar markets and customer groups. Very few opportunities are left for top-tier EMS companies except among OEM firms seeking to divest themselves of their manufacturing assets.

First-half transactions were up from a year earlier in one out of five categories (OEM divestment of CM) tracked in last year's analysis of the period (Chart 2, p. 2). Service or supply chain extension deals continued to be a popular type of M&A transaction. During the first half, six such deals went through, down 33% from nine transactions closed in the year-earlier period.

An equal number of providers were interested in buying a competitor operation. By contrast, capability deals may be less attractive when demand is soft if they don't add a significant amount of revenue.

The six capabilities deals that closed in the first half of 2018 included **Cypress Industries** acquiring **Concurrent Manufacturing Solutions**; **Celestica** acquiring **Atrenne**; **Elemaster** acquiring **GDM**; **TT Electronics** acquiring **Precision**; **KLA-Tencor** acquiring **Orbotech**;



and **Kimball Electronics** acquiring **Global Equipment Services (GES)**.

Acquiring an EMS operation of another provider continued to be the most popular type of M&A transaction. During the first half, six such deals went through, equal to the number of transactions closed in the year-earlier period. These deals can offer geographic expansion, complementary customers, diversification, more revenue, increased capacity, and additional capabilities. Depending on the buyer's needs, one or more of these benefits will act as motivation for a deal.

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Chart 2: Deal Breakdown for the First Half 2018 versus the First Half 2017

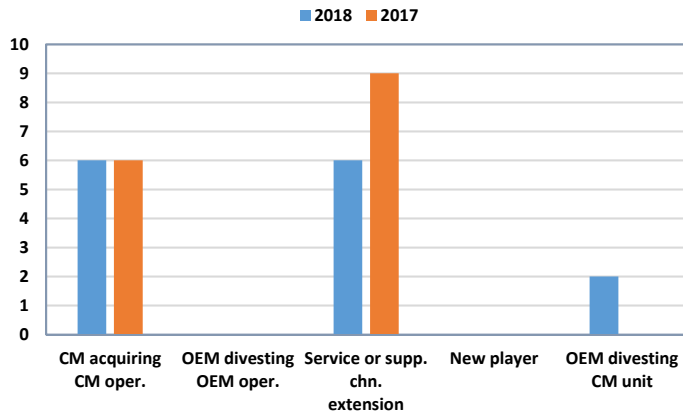
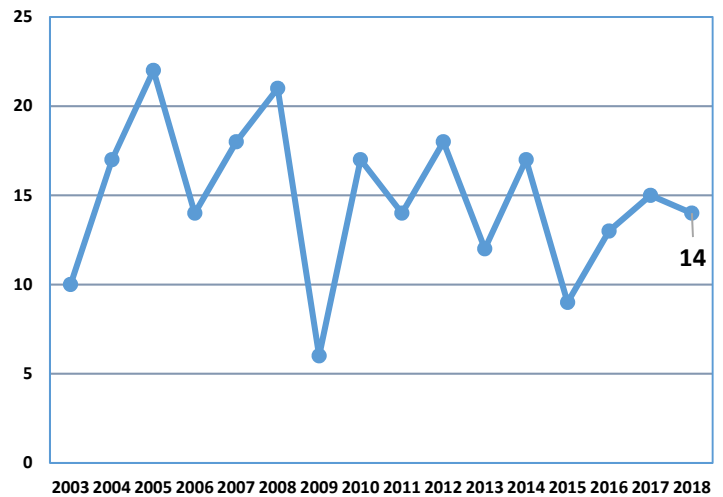


Chart 3: First-Half Consolidation Deals Over Time



The largest of the first-half CM operation purchases was **FIT Hon Teng, Ltd.**, part of the contract manufacturing giant **Foxconn Technology Group**, acquiring **Belkin International, Inc.** for \$866 million in cash. The move comes as FIT Hon Teng seeks a greater presence in new applications like car camera modules that are used in driverless cars, and hopes to tap into markets including medical, Internet-connected devices, and green technology. In addition, **TT Electronics** has acquired the **Stadium Group plc**; **Löfvånger Elektronik AB** has acquired **Spocs AB**; **Hindley Circuits** has acquired **Magnum Electronics**; **Hindley Circuits** has also acquired **Irridian Industrial Electronics**; and **Semtech** acquired US-based **IC Interconnect**.

All six of the acquisitions of EMS operations resulted in the loss of an independent EMS provider, defined as consolidation.

Two of the categories in *MMI*'s system for classifying deals were not represented in the first half of 2018. No new players emerged from the sale of a manufacturing business, and no OEMs divested OEM operations. Two OEMs sold off an EMS unit (Chart 2).

OEM divestitures peaked in popularity at the turn of the century, but have fallen out of favor for the most part in the EMS industry. They haven't disappeared entirely,

however. Two transactions of this kind closed in the first half: **Pegatron** acquired **Arris**'s manufacturing plant in New Taipei City (Taiwan), which makes consumer-premises equipment such as set-tops and cable modems. The production of customer-premises equipment will move to Pegatron's Suzhou site in China by 2019. Technology and business operations will continue in Taiwan, including Arris's newly acquired Ruckus operations. The move is part of an ongoing effort by the company to simplify its manufacturing footprint through the use of its partners. In another deal, **VTech Holdings** signed an agreement with **Pioneer Corporation** under which VTech acquired a manufacturing facility in Malaysia owned by Pioneer Technology (Malaysia) Sdn. Bhd. The acquisition of the manufacturing facility includes its fixed assets and business in manufacturing high-performance audio equipment tailored for DJs, producers, and artists to inspire their work and performance. This will strengthen VTech Contract Manufacturing Services' (CMS) leading position as a manufacturer of professional audio equipment. It also adds 25% to its manufacturing capacity, with further potential for expansion. VTech will fund the transaction through internal resources. The acquisition is expected to close in the third quarter of 2018 and is subject to certain closing conditions in the

agreement.

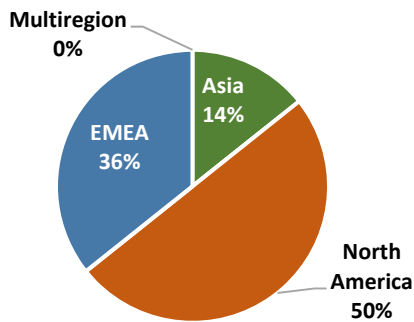
Of the 14 transactions closed in the first half, seven (i.e., 50%) resulted in the purchase of a North American operation; five (i.e., 36%) targeted operations in the EMEA (Europe/Middle East/Africa) region; two (i.e., 14%) called for the acquisition of a unit in Asia; and none added operations in more than one region (Chart 4, p. 3). The number of deals done was higher in North America but decreased for the EMEA region by 29% compared with the first half of 2017. Multiregion deals remained absent, as they had in the year-earlier period when there were none (Chart 5).

Of course, there are alternatives to making an acquisition when a provider needs to add a capability or expand its geographic reach. The provider can form an alliance, take a minority stake in a partner, or enter into a joint venture.

Such partnerships can also give a company access to technology that it covets. During 2018's first half, providers made three such arrangements, the same as in the year-ago period (Chart 6). Partnerships may save money, but they're no substitute for a fully integrated operation.

Over the years, providers have entered into alliances with engineering firms to jointly offer design and manufacturing. In the first half one EMS player, **Stadium Group**, joined up with **Mouser** to expand design-led opportunities (Chart 6).

Chart 4: Percentage of Deals by Target's Region



Another familiar strategy is to find a partner that will provide you with manufacturing in a region that you want to enter. During the first six months of 2018, one EMS company formed a partnership with this goal in mind. An alliance between EMS provider **USI** and **Qualcomm** was formed to focus on installation of a semiconductor module facility in São Paulo. In another partnership, **Micron** and **Intel** extend their alliance in 3D NAND flash memory development (Chart 6).

Publisher's note: First-half 2018 statistics published here should be treated as preliminary. It is possible that *MMI* will discover additional first-half transactions after this article is published. Also, be advised that this analysis excludes private equity deals, as well as divestitures by EMS providers, unless the operations sold are retained within the EMS industry.

Some Quarterly Results

Jabil, Inc. (NYSE: JBL). For the third quarter of fiscal year 2018, Jabil reported net revenue of \$5.4 billion; Diversified Manufacturing Services (DMS) year-on-year revenue growth was 36 percent; Electronics Manufacturing Services (EMS) year-on-year revenue growth was 12 percent. Reported operating income was \$113.0 million and diluted earnings per share was \$0.25. Reported core operating income was \$150.1 million. Core diluted earnings per share was \$0.46.

Sales of the company's products are concentrated among specific customers. During the nine months ended May 31, 2018, Jabil's five largest customers accounted for approximately 50% of its net revenue and 77 customers accounted for approximately 90% of its net revenue. Sales to these customers were reported in the Electronics

Manufacturing Services ("EMS") and Diversified Manufacturing Services ("DMS") operating segments.

As of May 31, 2018, Jabil operated in 29 countries worldwide. Sales to unaffiliated customers are based on the company's location that maintains the customer relationship and transacts the external sale. Total foreign net revenue represented 91.2% and 91.8% of net revenue during the three months and nine months ended May 31, 2018, respectively, compared to 90.6% and 91.3% of net revenue during the three months and nine months ended May 31, 2017, respectively.

On September 1, 2017, Jabil completed the acquisition of **True-Tech Corporation** ("True-Tech") for approximately \$95.9 million in cash. The acquisition of True-Tech assets has been accounted for as a business combination using the acquisition

Chart 5: Deal Breakdown by Target's Region Comparing First-Half 2018 with First-Half 2017

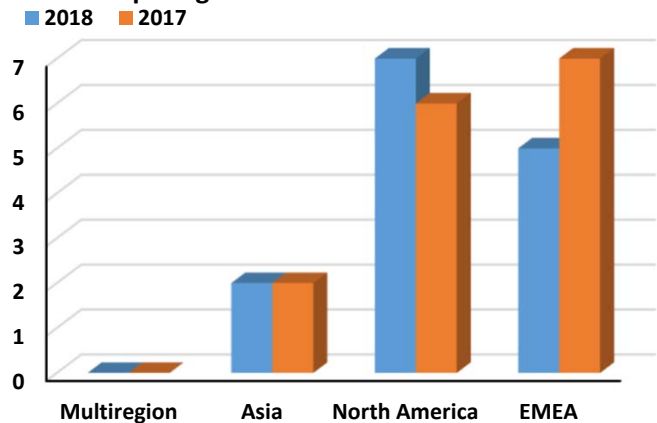


Chart 6: EMS Industry Alliances, Equity Partnerships and Joint Ventures

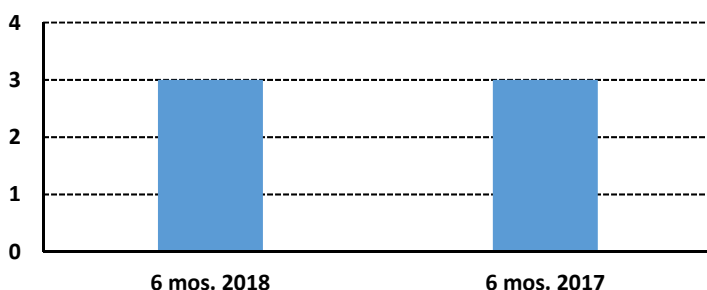
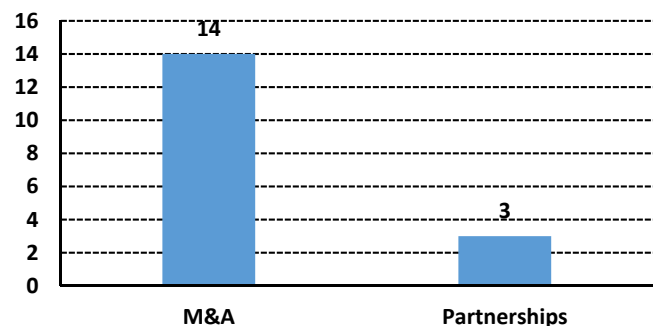


Chart 7: First-Half M&A versus Partnerships



method of accounting. Assets acquired of \$114.7 million, including \$25.9 million in intangible assets and \$22.6 million in goodwill, and liabilities assumed of \$18.8 million, were recorded at their estimated fair values as of the acquisition date.

DMS segment revenues increased 36% due to (i) a 29% increase in revenues from customers within its mobility business as a result of increased end-user product demand; (ii) a 4% increase in revenues due to new business from existing customers in its healthcare business; and (iii) a 3% increase in revenues due to a new customer and from existing customers in its consumer lifestyles and wearable technologies business. EMS segment revenues increased 12% primarily due to (i) a 3% increase in revenues from a new customer and from existing customers within its industrial and energy business; (ii) a 3% increase in revenues from existing customers in its capital equipment business; (iii) a 2% increase in revenues from existing customers in its digital home business; (iv) a 2% increase in revenues from existing customers within its networking and telecommunications business; and (v) a 2% increase in revenues spread across various industries within the EMS segment.

Plexus (NASDAQ: PLXS) reported financial results for its fiscal third quarter ended June 30, 2018 with quarterly revenue of \$726 million and a 17% increase from the comparable quarter of last fiscal year. GAAP diluted EPS was \$0.79. Within the quarter Plexus continued its strong wins performance by exceeding \$200 million in manufacturing wins and achieving record engineering wins, positioning it for meaningful growth.

Looking ahead to the fiscal fourth quarter, Plexus expects its revenue growth trajectory to continue due to its wins performance and improved end markets. As a result, the company is establishing revenue guidance of \$735–\$775 million. At this revenue level, the company would exceed its 12% annual revenue growth goal for the fiscal year. The company is guiding fiscal fourth quarter GAAP diluted EPS in the range

of \$0.82 to \$0.92. With performance in this range, Plexus expects to deliver record operating profit.

During third quarter, it won 45 manufacturing programs representing \$202 million in annualized revenue when fully ramped into production. Trailing fourth-quarter manufacturing wins total \$828 million in annualized revenue when fully ramped into production.

SigmaTron International, Inc. (NASDAQ: SGMA) reported revenues and earnings for the fiscal year ended April 30, 2018. Revenues increased to \$278.1 million in fiscal year 2018 from \$253.4 million in the prior fiscal year. Net income decreased to a net loss of \$3,241,870 in fiscal year 2018 compared to a net income of \$1,390,206 in fiscal year 2017. Basic and diluted loss per share for the fiscal year ended April 30, 2018 were each \$0.77 compared to earnings per share of \$0.33 each in fiscal year 2017.

For the fourth quarter of fiscal year 2018, revenues increased to \$68.2 million compared to \$65.9 million for the same quarter in the prior fiscal year. Basic and diluted loss per share for the fiscal year 2018 fourth quarter were each \$1.04 compared to basic and diluted earnings per share of \$0.30 each for the same period of fiscal year 2017.

SigmaTron posted a significant loss in the fourth quarter, which created a significant loss for the company for fiscal 2018. This loss was caused by two events that were recorded in the fourth quarter. Absent these two situations, SigmaTron posted a pretax profit of \$503,680 for the fourth quarter and \$2,120,107 for the year and is heading into fiscal 2019 with good momentum and projected revenue growth.

The first significant event was the write-off of intangible assets of \$3,913,006, which included goodwill that was created when SigmaTron acquired Spitfire Controls in May 2012. These items are subject to yearly testing in the fourth fiscal quarter. The entire write-off is a noncash expense and will not affect its operations going forward.

The second significant event was the purchase and subsequent sale of Petzila,

Inc.'s assets. Petzila was a start-up customer that began doing business with SigmaTron four years ago. Petzila was unfortunately unable to raise adequate capital to execute its strategic plan and ultimately was unable to support its financial requirements and obligations.

Kitron ASA (OSE: KIT) reported second-quarter revenue of NOK667 million (\$82.4 million), up 3% year over year.

Net profit for the quarter was NOK34.5 million, an increase of 10% compared to the same period last year. Operating profit (EBIT) was NOK45 million, nearly flat from the same quarter in 2017.

The order backlog increased by 12% on a comparable basis. After adjustment for the introduction of the new IFRS 15 accounting rules, the order backlog ended at NOK1,009 million. There are early signs of increased investments in the offshore industry, translating into an increased order backlog in the Offshore/Marine market sector, albeit from a very low level.

Second-quarter operating profit (EBIT) was NOK45.0 million, compared to NOK45.5 million last year. EBITDA was NOK58.6 million, compared to NOK59.0 million last year.

Net working capital increased by 7% compared to the same quarter last year, to NOK603 million. Operating cash flow was NOK42.7 million, compared to NOK63.1 million in the second quarter of 2017. The increase in working capital is partly related to a deliberate and temporary inventory buildup to avoid supply disruptions in the face of previously reported electronic components shortages. Component shortages have been an ongoing issue for the electronics manufacturing services industry since last year, and the situation is expected to be challenging throughout the year and into 2019.

For 2018, Kitron expects revenue to grow to between NOK2,500 million and NOK2,700 million. The EBIT margin is expected to be between 6.1% and 6.5%. Growth is primarily driven by customers in the Industry and Energy sectors. Profitability is driven by cost-reduction activities and improved efficiency.

Company News

Foxconn to Open Tech Center in Eau Claire, WI

Foxconn will open a technology center in Eau Claire, Wisconsin, for an undisclosed sum, according to published reports.

The firm plans to buy a six-story building and an additional 15,000 square feet of space, where it will serve west-central Wisconsin, as well as house an innovation center.

The company plans to create some 150 jobs related to the project.

Libra Industries Partners with CoPro Technologies

Libra Industries has partnered with CoPro Technologies to support its customers with mechanical design and PCB layout services.

Mechanical design support includes 3D CAD design, 2D drawings, and technical documentation. Additionally, CoPro will support Libra Industries with evaluation of prototypes, DFM/DFA reviews, and additive manufacturing.

“We are excited about our recent partnership with CoPro,” said Libra Industries VP of Operations Steve Schwaebler. “Having the ability to offer mechanical design services in addition to our more than 38 years of PCB layout experience will give us a competitive advantage and extend our service offerings to our customer base.”

CoPro will work in conjunction with Libra Industries to design large and small assemblies, sheet metal, injection-molded plastics, and die-cast parts.

Connect Group Selects FactoryLogix MES Software

Connect Group has chosen Aegis’ FactoryLogix digital MES software across four manufacturing sites in Europe.

FactoryLogix provides traceability of production in the form of a comprehensive digital build record of materials and processes.

With products manufactured across multiple manufacturing sites, the challenge was to ensure seamless manufacturing execution with a high level of traceability.

Actia to Open Facility in Michigan

Actia Electronics plans to open a production and R&D facility in Romulus, Michigan.

The PCB manufacturer said it would invest \$18.5 million to buy a 50,000-square-foot facility and hire 151 workers.

The Michigan Economic Development Corp. awarded the company \$750,000, and the city of Romulus agreed to a 50% property tax reduction.

Asteelflash Adds 2 SMT Lines in Tijuana

Asteelflash USA is investing in new SMT lines for its factory in Tijuana.

Two SMT lines are currently being installed, doubling its capacity for printed circuit board assembly.

The lines will be ready for manufacturing during the third quarter.

“While we see a trend from customers and prospects to bring manufacturing back to the US, Mexico also appears as a more than suitable alternative to Asia, particularly from a logistics and supply chain perspective,” said Albert C. Yanez, executive VP of Asteelflash Group and president of Asteelflash Americas.

EMS Firm Camtronics Vale Spins Off Parent Co.

EMS firm Camtronics Vale announced the completion of a management buyout from its parent company PhotonStar LED.

The MBO was led by managing director Paul Macleure. Camtronics was founded as a standalone company and was acquired by PhotonStar in 2011.

Camtronics has been in electronics manufacturing for over 20 years and serves the medical, military, industrial, and LED lighting industries. It employs 31 workers and has annual revenues of £2 million.

Astrum to Open India Manufacturing Site

Astrum plans to establish a manufacturing unit in India to host computer and consumer electronics.

The Chinese OEM will invest Rs100 crore in the new site, per an MOU signed this week with India’s Electronics and Communications (E&C) Department.

The new site will eventually create 1,000 jobs, government officials said.

Foxconn-Cincinnati Co-op to Focus on AI

The University of Cincinnati’s engineering department and Foxconn announced a plan to team up on technology research.

The world’s largest EMS/ODM will collaborate with UC’s College of Engineering and Applied Sciences on industrial Internet and industrial artificial intelligence applications. The program is being coordinated under the auspices of Jay Lee, a professor at UC and an advisor to Foxconn.

“I think this is only the beginning. We’ll explore many other opportunities by engaging UC strength and Foxconn strength together, and create not just research education, but also a great accelerated innovation program,” said Lee, a UC College of Engineering & Applied Science professor.

It’s the second such announcement in the past week. Last week, the University of Wisconsin-Milwaukee and Foxconn announced a co-op program under which engineering students would study at Chung Yuan Christian University in Taipei and work at a Foxconn plant while there. That program will launch this fall.

Flex Cuts Off Tintri for Failure to Pay Account

Flex has invoked a breach of contract against enterprise cloud platform provider Tintri for failing to pay its account, and has discontinued ordering materials and shipping products for the OEM.

On Jun 16, 2018 Tintri received a

notice from Flextronics Telecom Systems notifying the company that it was in breach of the Flextronics Manufacturing Services Agreement dated Dec. 22, 2014, due to failure to pay past due amounts. Per the contract, Tintri had 15 days from the date of the notice to pay or the agreement would be terminated.

Under the terms of the agreement, Flex is Tintri's exclusive hardware manufacturer. Tintri has \$9.8 million in purchase commitments to Flex, and additional commitments from noncancellable orders and existing inventory.

Cal-Comp to Raise Expansion Funds through IPO

Cal-Comp Technology's unit in the Philippines has filed an application to raise up to about \$129 million from an initial public offering. Cal-Comp plans to sell nearly 400 million new common shares, according to reports.

Cal-Comp will use the IPO proceeds for expansion, including new factories in the Philippines.

"The Philippines has become one of our key manufacturing hubs in southeast Asia, and we want to expand our foothold here through an initial public offering," said Simon Shen, president and CEO of Cal-Comp. "We believe our expansion will enable Filipinos to become more competitive in export manufacturing and tech R&D."

Neways Electronics Rides IoT Wave

Neways Electronics is participating in two major European projects in the field of Internet of Things (IoT), with the beneficiaries ranging from engineers at major corporations to local farmers.

The decision leverages the EMS company's plan, launched in 2016, to develop expertise in the budding world of Internet-enabled communications.

One such project is INTER-IoT, which concentrates on

interoperability among different IoT platforms. Neways participated in this EU project to develop, implement, and test in practice an open source framework with associated methodology and tools to enable interoperability of heterogeneous IoT platforms. The EMS service provider contributed across the full breadth of the project, with a focus on implementation and integration. Pilots have been rolled out to optimize the logistic, safety, and lighting infrastructure within the port of Valencia.

Also, the firm is working on IoF2020, which explores the potential of IoT technologies for the European food and farming industry. Neways connected smart weeding machines to the Internet to enable organic farmers to obtain detailed information on weed pressure per individual plant to optimize their weeding cycles.

Is Foxconn Looking at Thailand Next?

Foxconn has met with Thailand officials and is reportedly interested in investing there, a top government administrator says.

Deputy Prime Minister Somkid Jatusripitak says he told J.W. Tai, Foxconn corporate executive vice president and chairman of Sharp Technology, that the world's largest ODM/EMS would receive incentives from the national Board of Investment (BoI) to pave the way to locating operations there.

The value or timelines for any incentives were not disclosed.

Long a popular site for contract assemblers building for the automotive and optical communications sectors, Thailand is eager to attract smart phone and other related industries as well. Foxcon is said to be interested because a major customer, **Huawei**, is headquartered in Thailand.

According to its website, the BoI is a government agency under the office of the Prime Minister. Its core roles and responsibilities are to promote valuable investment, both investment into Thailand and Thai overseas investment.

Planned New Kinpo IPO to Generate Funds for Expansion in Philippines

New Kinpo Group (NKG) is considering an initial public offering in the Philippines to generate funds for new investments in manufacturing and local marketing of its branded products.

The company, the parent of top EMS/ODM Cal-Comp, plans some \$250 million in new investments over the next three years in the Philippines, company executives told reporters. The company also plans to market its line of OEM products there.

"What is more important is our reputation in the Philippines; we consider the domestic market a big potential for us, so while we grow the exports market we also try to grow in the domestic market," president and CEO Simon Shen was quoted as saying.

NKG has plans to increase its total number of domestic factories to eight by the third quarter of 2019, and will increase its local investments by \$150 million once the IPO has been issued.

Foxconn Moving to Tap Lucrative Webcast Business Opportunities

Eying the lucrative new business opportunities generated by the growing Internet celebrity economy, the **Foxconn Group** has been actively building its own live webcast and online collective shopping platforms over the past two years, seeking to cash in on new B2C sales of the group's products, according to industry sources.

Foxconn officially launched a live webcast platform in the second half of 2017 following six months of preparations, and then inaugurated a shopping platform dedicated to serving group buying needs in early 2018, initially leveraging the group's huge workforce to support the platforms.

The sources said Foxconn has carried out multiple activities through the webcast platform, including e-sports, trade fairs, and new-product launches, as well as the group's 30th anniversary celebrations. The group hopes to attract more attention on social media about

its products through live webcasts of the daily lives of employees, before promoting related apps to the outside.

LG Display to Ship OLED Panels to Apple in 2H18

LG Display has reportedly signed a deal with **Apple** under which it will start shipping both LCD and OLED panels to the US smart phone vendor for the production of its next-generation iPhone devices in the second half of 2018, according to a Korea-based *NewsPim* report.

Based on the contract, LG Display is expected to ship 3–4 million OLED panels as well as 20 million LCD smart phone panels to Apple in 2018, said the report, which added that LG Display will produce the OLED panels needed for the iPhone from its E6 6G fab in Paju.

Along with the improving yield rate at the E6 plant, LG Display is likely to secure the majority of 6.5-inch OLED panel orders from Apple in 2019, and therefore will ramp up its OLED panel shipments to 10 million units in the year, said the report.

Incap's CEO Vesa Mäkelä to Leave

Incap Corporation's Board of Directors and the President and CEO Vesa Mäkelä have agreed that Vesa Mäkelä will leave his position.

Mr Otto Pukk has been appointed as the interim CEO starting from 25 June 2018. Along with the duty of the Group's CEO, Otto Pukk will also continue to act as the managing director of Incap's subsidiary in Estonia.

Incap has started the search process for a new President and CEO and aims to fill the position as soon as possible, a press release states.

ST Engineering Completes JV Setup in UK

Singapore Technologies Engineering's Electronics arm, **ST Engineering Electronics, Ltd.**, has completed the set-up of the JV company named Jet-Talk, Limited (Jet-Talk) with SatixFy UK, Limited.

ST Engineering Electronics has injected its proportional 49 percent share, amounting to US\$10 million, into the capital of Jet-Talk.

Jet-Talk, which is based in the UK, aims at developing a satellite antenna system that delivers enhanced in-flight connectivity for commercial aviation. Through this joint venture business, ST Engineering Electronics seeks to enhance its global access to the emerging high-growth commercial aviation connectivity market, a short announcement from the company states.

Flex to Set Up Manufacturing Facility in Andhra Pradesh

Global electronics major **Flex** will set up a facility in Andhra Pradesh to manufacture a range of intelligent products.

The state government signed an MoU with Flextronics Technologies (India) Pvt., Ltd., the Indian subsidiary of Flex, the "sketch-to-scale" solutions provider.

According to state Information Technology and Electronics Minister Nara Lokesh, Flex will set up a greenfield manufacturing facility at Sri City near Tirupati with an investment of Rs585 crore. The facility is expected to create 6,600 jobs.

The officials signed the MoU in the presence of Chief Minister N. Chandrababu Naidu and Flex's President of Global Operations and Components Francois Barbier.

KeyTronic Corporation Awarded Contract with SkyBell Technologies

KeyTronic Corporation announced that it has begun manufacturing for **SkyBell Technologies, Inc.**, a global leader in patented Wi-Fi video doorbell technology.

SkyBell has awarded KeyTronic the manufacturing of its expanding line of Wi-Fi video doorbell products and accessories. Once fully ramped over the next few quarters, SkyBell could represent 10% or more of KeyTronic's total revenue.

"We started SkyBell with a vision of

making safer homes and neighborhoods—and adding production capability at KeyTronic will help us reach even more homes," said Joe Scalisi, CEO of SkyBell. "Partnering with KeyTronic will definitely enhance our strategic moves to increase product availability to fulfill demand in additional channels that have been waiting to sell our branded products. We are looking forward to leveraging the expertise of KeyTronic to help accelerate introduction of our products."

Kitron to Invest in Poland

Building on strong performance in Lithuania, **Kitron** intends to expand its eastern European presence and has signed a letter of intent for a production facility in northern Poland.

Construction of the 8,000-square-meter facility is planned to start in the fourth quarter, and production is scheduled to start by the third quarter next year.

Kitron intends to hire a staff of approximately one hundred for the first year of operation, and this is expected to increase significantly over the coming years, potentially reaching about 500 employees.

The plan is for a leased facility, purpose-built for Kitron. Investments and capacity increase will occur gradually over a period of about five years. Total expenditure over this period is forecast to be approximately €15 million and is expected to be handled within the annual capital expenditure range of 2–3% of revenue previously indicated by the company.

New Venture Research Completes Its Annual Report on the EMS Industry

New Venture Research (NVR), publisher of *MMI*, completed its annual report on the EMS industry in July. The report is considered the most comprehensive in the industry and is 600 pages in length. The leading EMS and ODM companies (102 total) with revenue in excess of \$100 million are profiled and analyzed in depth for industry growth, manufacturing footprint, and customer base.

The report is titled "The Worldwide Electronics Manufacturing Services Market – 2018 Edition" and has been published annually since 1993.

Some of the research findings include that after several years of flat growth, the combined (CM) industry expanded by approximately 10.8 percent in 2017 to achieve revenue of \$365 billion for EMS firms and \$106 for ODM companies.

The CM market was sustained by the strong demand for smart phones, which resulted in an increase in assembly revenue of \$14 billion in 2017. Capital spending in wireless infrastructure exceeded an additional \$3 billion in orders in 2017 as carriers prepare for the next-generation 5G networks. Enterprise LAN system assembly was very strong in 2017, as the expansion of cloud computing requires distributed data centers worldwide.

For the eighth year in a row, the industry was profitable at \$8.4 billion (for 41 EMS public companies and 18 ODM public companies), declining by \$1.1 billion from 2016. Foxconn accounted for nearly half of all the money made by the EMS industry in 2017, and EMS companies accounted for approximately 78 percent of the total. Only four EMS companies and two ODM companies lost money in 2017. Pegatron ranked second in net income (\$527 million), followed by Flex (\$320 million), while Quanta Computer, Delta Electronics, and Qisda ranked highest in earnings for the ODMs.

Chart 8 The Worldwide Market for Electronic Products Assembly by Market, 2017 and 2022 (\$B)

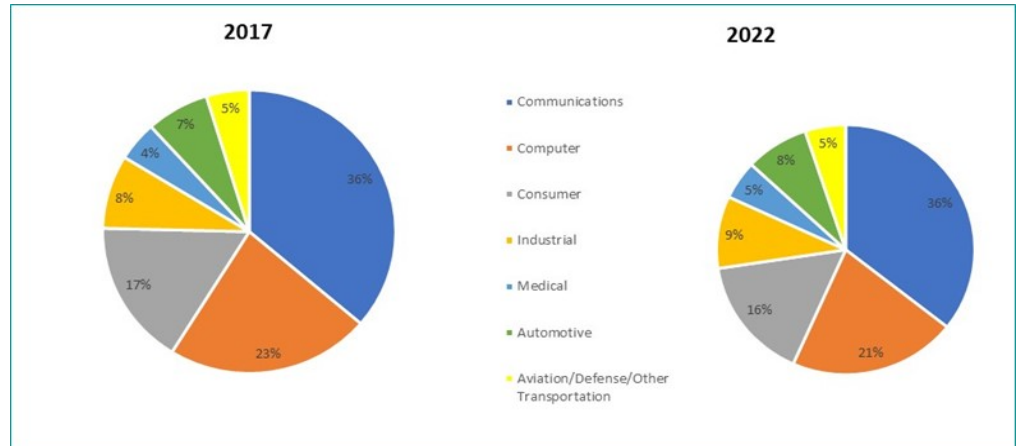


Chart 8 compares the worldwide CM market by market segment for 2017 and 2022. Both EMS firms and ODMs will experience the strongest growth from production in the communications and computer market segments, followed by strong growth in commercial avionics, automotive, and medical. Specifically, EMS companies will find good growth in notebooks, enterprise LANs, smart phones, console video games, and set-top boxes, while ODMs are projected to experience good growth in generic tablets, feature (and smart) phones, monitors, and commodity networking equipment. In general, EMS firms will tend to excel in technology-intensive product areas and in complex, low-volume board assemblies. ODMs excel in manufacturing commodity/high-volume products such as motherboards, monitors, handhelds, and consumer electronics.

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